

Weidemeyer Bridge (Weitmeir Bridge)  
(Thomes Creek Bridge)  
Rawson Road, County Road No. 124B, spanning  
Thomes Creek, approximately 3.5 miles  
northwest of Corning.  
Tehama County  
California

HAER No. CA-136

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#### PHOTOGRAPHS

#### WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Western Region  
Department of the Interior  
San Francisco, California 94107

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# HISTORIC AMERICAN ENGINEERING RECORD

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Location: Rawson Road, County Road No. 124B,  
spanning Thomes Creek, approximately 3.5  
miles northeast of Corning, Tehama  
County, California.

U.S.G.S. 7.5. minute Corning, California  
Quadrangle, Universal Traverse Mercator  
Coordinates: 10.566200.4425220

Date(s) of Construction: 1898 and 1909. Altered 1965

Engineer: William F. Luning

Builder: Pacific Construction Company

Present Owner: Tehama County Public Works Department  
9380 San Benito Avenue, Gerber, CA 96035

Present Use: Vehicular Bridge  
To be demolished as part of a bridge  
replacement project.

Significance: The Thomes Creek Bridge is the oldest  
multiple span truss bridge in Tehama  
County, and is one of the oldest  
examples of both pony and through types  
of pin connected steel pratt trusses  
with integrity of location in a seven  
county region. It was designed by  
William F. Luning, an engineer of local  
historical significance.

Report Prepared By: Harold Mayfield  
Deputy Director of Public Works  
Tehama County Public Works Department  
9380 San Benito Avenue  
Gerber, CA 96035

Date: February, 1994

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The Thomes Creek Bridge on Rawson Road (County Road No. 124B), is described as a steel truss bridge consisting of eight simple spans. Beginning from the South, span 1 is a 64 foot pin connected pony Pratt truss, spans 2, 3, 4, 5, and 6 are similar 80 foot span pony trusses. These spans were constructed in 1909. Spans 7 and 8 are 100 foot spans through pin connected Pratt trusses and were constructed in 1898. The deck system for all spans consists of 4" x 16" timber stringers carrying a laminated deck of 2" x 4" lumber which is surfaced with about 2" of asphalt surfacing. Compression members, top chords and interior vertical, consist of built-up members utilizing angle irons and channels. Tension members which include bottom chords, diagonals, end vertical and sway bracing consists of rods for lightly loaded members and eyebars for other members. Structural members, floor beams, consist of I-beams. The railing is light timber and the width between railings is 17.8 feet. The design and use of materials is quite typical for bridges of this period.

The rolled steel shapes used in the 1909 pony trusses have raised mill markings embossed: "ILLINOIS", on the larger members and "I S Co-M" on the smaller members. This indicates that the steel was manufactured by the Illinois Steel Co. No mill marks could be found on the steel in the 1898 trusses.

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The original substructure for the entire bridge consisted of concrete filled cylindrical steel caissons which were probably sunk by a combination of driving and excavation from within. Again, a common design for this period. All piers have been modified as discussed later.

There is evidence that six metal plaques were originally installed; one on the top chords at each end of the pony spans. All have been stolen except one from the through truss which was removed and saved by the County.

The bridge is not in good condition as all metal is moderately rusty. There appears to be rot in some of the timber stringers and many of the diagonal rods in the lower chord bracing system are bent and loose, apparently from the impact of drift in the creek during flood stage. Loads are limited to 3 tons and speeds to 15 MPH on the bridge.<sup>1</sup>

The approach roadway is 22 feet wide and paved with asphalt concrete or chip seal. The average daily traffic is 141 vehicles per day.

There is a 4" telephone conduit and a 1" conduit remnant suspended on hangers under the bridge. The conduit remnant was

once connected to a stream gauge.

Original plans could not be found.

With the following exceptions, the bridge appears to possess integrity of location, design, setting, materials, workmanship, feeling and association.

A flood on December 22, 1964 caused damaging settlement of piers 2, 3 and 4 and twisting of the trusses supported thereon.<sup>1</sup> There is evidence that some rivets have been removed and replaced with bolts indicating that the damaged trusses were partially disassembled to remove and then re-erected during the repair work.

Repair work consisted of constructing new steel bents on driven 10" steel piles which straddle the old piers at piers 2, 3 and 4 and raising the entire bridge 3.75 feet. At piers 5 and 6, steel frames were set on top of the original concrete piers to carry the raised pony trusses. At the older through truss spans, the original piers were extended with concrete and the trusses set thereon. The abutment breast walls and wingwalls were raised by driving steel sheet pile behind the original concrete walls.

It can also be assumed that the timber stringer and deck system

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must have been replaced at least once during the life of this 94+ year old bridge.

When constructed, this bridge was part of the main north-south route along the west side of the Sacramento Valley. The 1916 map of State Highways shows that this route and bridge were probably on the state highway system and that the road was paved from below Colusa to Red Bluff. During this period, the counties were required to furnish the bridges and right of way for the embryo state highway system. The state highway system bridge that later carried State Route 99W over Thomes Creek was constructed in 1920.

Any historic significance of this bridge can be attributed to its association with the designer, W.F.Luning, an engineer who may be of local historical significance. The bridge also embodies the distinctive characteristics of a type and method of construction characteristic of the 1890-1920 period.

William F. Luning was either the designer or supervised the design of both the 1898 and the 1909 portions of this bridge. There are one or two other surviving through trusses, and a great many quite similar pony trusses, which design and construction was supervised by Luning during his long tenure as Tehama County

Surveyor.

Luning was born in Red Bluff, California on July 3, 1857 to Joseph and Catherine Luning, natives of Germany.<sup>2</sup> Following his education in local schools, he began his career in surveying at age 19 working for Trowbridge B. Ward. Ward, at the time, was a land surveyor and later became clerk of the California Supreme Court. Luning's apprenticeship was combined with three years as rodman for the Southern Pacific Railroad beginning in 1878 followed by two years as Deputy County Surveyor under H.B. Shackleford.

Luning was first elected to the office of County Surveyor in 1886. He served nearly continuously from then until well after 1931 when he was last elected as either County Surveyor or Deputy County Surveyor. The only career break was from 1892 to 1898 when he engaged in private practice.

His length of service in the County Surveyors Office exceeded that of anyone else in California. His son Charles A. worked under Luning as a deputy and later took over as County Surveyor with the father, William, stepping down to the deputy level.

Most of Luning's professional accomplishments involved surveying.

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He laid out the town of Corning in 1881 with F.J. Nugent and in 1884 he and W.S. Green surveyed the first forty miles of the Central Irrigation Canal. He also was City Engineer at Red Bluff for twelve years during which time he planned a new water system, which was not built due to funding problems, and a sewer system which was constructed.

During his career as County Surveyor, Luning is credited with the design of many steel trusses between 1896 and about 1931. Because of his lack of training or previous experience in the design of bridges, it is believed that Luning either had an assistant trained in bridge design or received much help from steel manufacturers or bridge fabricators. During this period the steel industry provided many aids, such as the Carnegie Pocket Companion, to potential customers.

Both portions of the bridge were erected by the Pacific Construction Company of San Francisco, California under contracts let by Tehama County. Its bid for the 6 pony truss portion in 1909 was \$5,890.<sup>3</sup> This Company first appeared in the San Francisco City directory in 1886 and was very active in the construction of bridges, especially steel trusses, throughout central California until about 1920.



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The Pratt type truss used in both the pony truss (1909) and the through truss (1898) that constitutes the Thomes Creek Bridge is a very common type of metal truss bridge in America. The basic Pratt truss with straight upper chord, such as Thomes Creek Bridge, was patented in 1844 by Thomas and Caleb Pratt.<sup>4</sup> With this design, the first vertical, last vertical, diagonals and bottom chord are tension members while the other vertical and top chord are compression members. Early Pratt trusses were built of wrought iron and timber.<sup>5</sup> The first all-steel bridge was a Pratt through truss built in 1879 over the Mississippi River at Glasgow, Missouri.<sup>6</sup> This was just 20 years prior to the Thomes Creek Bridge.

Up until the early 1900's, eyebars were generally used for tension members and large single pins were used to make field connections where members intersected. The use of pin connections facilitated field erection ensuring that no bending moments would be cranked into the members at the joints, thus simplifying the stress analysis. Later it became more economical, especially for shorter spans, to use rolled steel sections (angle and channel shapes) for tension members with field connections using gusset plates and rivets. The Thomes Creek Bridge is a typical example of the pin connected variety.

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Planned demolition of the Thomes Creek Bridge is part of a  
proposed Federally aided bridge replacement project.

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